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ABSTRACT

Photography editors from three major newspapers and three former presidents of the National Press Photographers Association were surveyed to establish a framework for discussion of ethical questions concerning digital retouching of photographs and its impact on the credibility of photojournalism. Although photographs have been repaired, spliced or altered by conventional means, digital retouching makes such alterations undetectable, thus creating the credibility dilemma. While the newspapers surveyed generally do not alter news photographs, some approve of changing feature illustrations. Everyone interviewed agreed it is unethical to alter news photos. The question was where enhancement ends and distortion begins. One newspaper surveyed does have an ethics committee that has begun to formulate some policy concerning the use of digital retouching. Another editor expressed concern about the legal ramifications of altered photographs where legal contracts are involved, such as freelance photographs, copyright laws, agency stock photos and model releases--concerns that will likely increase as the cost of digital retouching comes down. The future preponderance of digital photo editing could make readers cynical of photographic images, particularly from newspapers that handle feature photography differently from news photography, regardless of the ethics underlying that policy. (HTH)

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Digital Retouching:

Is There A Place For It In Newspaper Photography?

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Digital Retouching:

Is There A Place For It In Newspaper Photography?

Until the last decade the technology of photography had not changed substantially since the end of the 19th century. But now, as one critic writes, "photography is on the edge of a brave new world."[1] In many instances the computer is replacing the camera and darkroom in creating pictures. Even the concept of film is changing with the electronic video still camera. The silicon chip will soon store images for the computer to transmit directly to the printing presses.[2]

With the advent of these new technologies, perhaps the most dramatic change in photography is the computer's ability to retouch and synthesize new images to the point that a composite photograph has life-like realism. This brave new world is digital retouching. How this new technology is handled in newspapers could have an impact on the inherent credibility of photojournalism.

The purpose of this paper is to identify initial ethical questions raised by this new technology. Since the 1984 Olympics, when USA Today used its Scitex prototype transmitter to send photos to their Washington D.C. headquarters,[3] these computer systems have improved the speed and quality of

color reproduction. Since these computer systems have price tags of approximately $2 million only a handful of newspapers have acquired them. Yet because these machines save both time and labor in stripping color negatives for reproduction, and dramatically simplify deadline pressures, more and more newspapers are considering purchasing these systems.[4] Scitex, the pioneering company in the digital editing field, stated in its 1984 corporate report that "in 1985 the Company intends to establish its presence in the newspaper field as the leading source of pre-press automation."[5]

However, with this computer technology comes the ability to change photographic images to the point where altered or composite photographs are undetectable. Electronic, digital editing can make award-winning graphics for advertising, but does it have a place in photojournalism? Is digital alteration ethical in photojournalism?

Examining Initial Ethical Questions

This paper purports to ask only initial ethical questions. Digital editing is so new and relatively expensive that only a few newspapers at present have the technology. Because the field of digital editing in newspapers is limited, this paper will simply begin a framework for discussion.

Three newspapers were selected as a representative sample of this small field:

> A local newspaper, The Register of Santa Ana, Calif., has a 300,000 circulation and competes with the Los Angeles Times for Orange County. The Register won the Pulitzer Prize for its sports photography of the 1984 Olympics.
>
> The Chicago Tribune, a regional newspaper, has a circulation of

755,000 and puts out six editions daily. It has two additional printing presses in Champaign-Urbana, Ill. and Madison, Wis.

USA Today with a national circulation of 1,352,000 helped to pioneer the Scitex computer systems. It has 30 printing sites across the country that receive transmissions from the Washington D.C. office.

Telephone interviews were conducted with at least two editors with photographic responsibilities at each of these newspapers.[6]

In addition, three former presidents of National Press Photographers Association were interviewed. These NPPA past presidents continue to be active in promoting high standards for photojournalism, and their comments helped set a framework for discussion. They are:

Pulitzer prize-winning photographer Gary Settle is assistant managing editor--graphics at the Seattle Times. He was an NPPA president in 1977-78.

C. Thomas Hardin, director of photography for the Louisville (Ky.) Courier-Journal and Times was NPPA president in 1984-85.

Rich Clarkson, director of photography for National Geographic Magazine, was NPPA president in 1975-76. He worked as director of photography for the Topeka (Kan) Capital-Journal and as assistant managing editor at the Denver Post.

Although magazines use digital retouching, this paper will only interview editors at newspapers. A representative sample of magazines would be more problematic. Magazines vary widely in their editorial formulas and targeted audiences. Deadline pressures, graphic needs and production processes also vary. And traditionally many magazines have viewed photography more as illustration than journalistic reporting. In contrast, the newspapers chosen are all dailies with the same editorial goals of bringing news, feature and sports to their daily readers in time for deadline.

Technology

In the production industry, digital retouching is referred to by many phrases: electronic retouching, computer imaging, and electronic color imaging or ECI. The process is the same. Laser technology, which is used to scan continuous tone photographs for color reproduction and wire service transmissions, translates the photograph into digital data. Hooked into a powerful computer this digital data is displayed on a gridded screen that divides the picture into minute picture elements or "pixels."

These pixels can be smaller than film grain. The more sophisticated the computer, the more pixels there are. The photograph is displayed on a monitor that has a gridded screen. These screens have resolutions from about 150 lines/inch up to 2,500 lines/inch. Within the screen's dots lie the tiny pixels.[6] Because these pixels are in a computer they are mobile, numerical data. Objects can easily be moved, cloned, deleted or combined with other objects. Pixels can be changed as to their color and their brightness.[7] For example a red dress can turn blue; the blue dress can change shades of light or dark blue and it can be lengthened or hemmed—whatever the operator chooses. And digital retouching can create high-impact, eye-catching graphics by combining multiple images and type.[8]

One immediate advantage to retouching a photograph on a computer is that on the monitor you can see the results in seconds. Unlike conventional retouching methods, you don't have to wait for film and new print processing. By enlarging any area of the screened image in the computer, all retouching is done pixel by tiny pixel. On the monitor the results are quick and precise. The process becomes slower once the new image is translated onto new film. There is a time delay as computer banks process the new information. The

fancier the change, the longer the delay. An output device or film plotter then translates the new image into color separations that are ready for proofs or the printing presses.

This new technology has great advantages for the production process. Digital retouching avoids expensive re-shooting of flawed photographs. It can enhance the quality of color separations for reproduction. It can correct bad color and repair scratches. Also, by way of telecommunications, the computer system can send separations in the form of digital data to remote printing presses and make tight deadlines.

Traditional Photographic Manipulation and New Concerns

In daily photojournalism there are standard manipulations of photographic images: cropping into the image; dodging and lightening portions of the print; burning in and darkening portions of a print (excessive burning of a print has its critics). Most editors and photographers agree to never flip a photograph which switches the left side to the right side. Critics say that in addition to reversing words that may be in the photo, it reverses reality and the symmetry of people's faces.

Dropping out and eliminating backgrounds has its supporters and critics. Supporters believe it's acceptable for illustrations, while others would never approve. Airbrushing, a process where objects can be removed or added, is an old practice that is still controversial. Cutting and pasting different photographs together sparks debate. Dropping backgrounds, airbrushing, and cutting and pasting are normally limited to what some editors consider obvious illustrations.

However there are always exceptions that cause criticism. News

Photographer quoted USA Today's criticism of Time Inc.'s Picture Week cover the week of Nov. 25, 1985. Nancy Reagan and Raisa Gorbachev were "spliced together tabloid-style to create what could be a misleading picture of chumminess. The magazine credits two photographers for the cover but makes no mention of why the separately shot portraits were blended into a seamless whole."[9]

A Life magazine special issue in 1976 fused two news pictures to show an assassination attempt in San Francisco on President Gerald Ford. The caption states, "The lower half of the scene--below the gun hand of the Secret Service man in the foreground--was not included in the hurried picture that recorded the main action. The photographer's next exposure got it all in, but by then the President had been pushed close to the ground after Sara Jane Moore's shot. To produce this result the bottom half of the second picture was grafted onto the first. Since little else moved in that fraction of a second, the two photographs make a perfect fit." Life magazine justified the cutting and pasting of two news photos on its contents page. The story warranted it to the editors who wrote, "this was surely the most frightening image of America in 1975."[10]

Photographic manipulation is not new. It's just that now it has never been so flawless and fast. Digital retouching makes alterations undetectable--shadows can be corrected, sizes can be matched to scale, colors and objects can be cloned to match perfectly. This is the disquieting difference of digital retouching according to some who are concerned.

"This new technology has the potential of undermining our faith in photography as a reflection of reality," says Edward Klein, editor of The New York Times Magazine in a Folio magazine survey. Another concern voiced in the

survey was that price drops which make computer retouching affordable to the average publisher could increase the possibility of fraud.[11]

"The problem arises in the day-to-day detailed temptation to 'improve' the images," writes Stewart Brand, publisher of Whole Earth Review. "Digital retouching though not yet a very public issue, is in the thick of how we think about communication and 'truth' and editorial responsibility--the broadcast fabric of civilization."[12]

Robert E. Gilka, former director of photography at National Geographic magazine is also uneasy about significantly modifying photographs. In a New York Times Magazine article he says, "It's like limited nuclear warfare. There ain't none."[13]

Quality Control and the New Computer Technology

The Register, Chicago Tribune and USA Today use the new computer technology primarily for color quality control and easing the deadline pressures of reproduction.

"Now when pages are stripped four sheets of film come out and all printers do is register them (on the plates)," says Nanette Bisher, assistant managing editor—graphics at The Register in Santa Ana, Calif. "Before it was four pieces of film per picture and you had up to 16 or 18 pieces of film to register. That takes more time to register."[14]

"The editor can control the deadline and not the mechanical side," says Jack Corn, director of photography at the Chicago Tribune. But Corn also says the Scitex computer system is a money-saving device because it saves on labor. "Don't kid yourself," he says. "It can pay for itself in a couple of years."

"Scitex is a great time saver," says Corn, "but start to monkey with it

and it's a long, long process in the computer banks." Graphic changes cause a time delay. Because the "Tempo" feature section of the Chicago Tribune is pre-printed, it can use the Scitex technology to make changes in photographic images. "It's tedious work," says Corn. "On the monitor—bingo! But the computer lag time is two to three hours or two to three days."[16]

Nanette Bisher agrees. The Chromacom computer by Hell Graphic Systems at The Register is used to correct the color shift if the wrong color film was used. "Production (staff) will complain, 'It's going to take two hours and the photographer could have changed the film in two seconds," she says.[17]

USA Today uses Scitex to filter out the green of fluorescent light. "We tell them (photographers) to shoot the film speed and we'll filter and screen electronically the green," says Jackie Green, director of photography at USA Today.[18]

The 584 free-lance photographers for USA Today receive precise technical instructions with each assignment. "We're more quality conscious than most newspapers," says Green. "We tell them the ASA to shoot and when to use fill flash. We ask a lot of questions to start with. You win half your battle if people do good quality from the start." USA Today can transmit 100 color photographs in an average week and process about 1,000 rolls of color each month. [19]

USA Today helped with the research and development of Scitex's transmitters that are now used only by USA Today. These portable transmitters use either telephone wires or satellites to transmit high quality color photographs directly to headquarters. Transmission time of a color photograph is three-and-a-half minutes by telephone wires and 30 seconds by satellite.

"We have the option to use UPI or AP color but they don't give us the

color quality we want at USA," says Larry Nylund, deputy managing editor of graphics and photography at USA Today. His primary responsibility is to receive color from across the country.[20]

Changing Photographs Electronically

"On news photos the Chicago Tribune does not flop pictures or drop backgrounds. Nothing is altered except to correct flaws," says Jack Corn. "We will burn and dodge (color photos) with Scitex like you do a B&W print."[21]

"We change photos only in the camera, not in the (Chromacom) machine," says Ron Mann, director of photography for The Register.[22]

"Manipulating news photos is something we do not do," says Larry Nylund of USA Today.[23]

"We are in the news business—we do not do advertising," says Jackie Green of USA Today. "We do no more with our color than we do with B&W—that's color correction and making it printable."[24]

While these newspapers agree on not changing news photos, there is disagreement on changing feature photographs.

"In news we don't approve," says Jack Corn. "But advertising and feature (departments) do it. The paper obviously approves."[25]

"I just can't imagine when I'd ever change a news photo," says Bill Parker, picture editor of the Chicago Tribune. But about changing feature photo-illustrations, he says "I don't see where the harm is."[26]

Mary Jo Donahue, graphic designer at the Chicago Tribune changes feature-section photographs with caution. "I'm on the photographer's side. I'm not a big fan of manipulating photos," she says.[27]

However food and fashion photographs are changed. A February 13 "Tempo"

cover showed a model against a blue seamless backdrop. "The model was originally shot on a white background," says Jack Corn. "It was changed to blue. Now why couldn't they have decided the color before?"[28]

There was also disagreement on whether to remove distracting clutter in a photograph.

Graphic designer Donahue, who does not work on fashion layouts, might consider changing clutter in a housewares feature photo. "If it's distracting then yes, to get distraction out of the image. It depends. I'm not trying to destroy the photographer's frame but if it's going to make the page look better then I think the photographer would agree. But I don't work for an ad agency--I work for a newspaper. People have come to believe in the integrity of the Chicago Tribune."[29] For Donahue, certain small changes like removing certain types of clutter are not deceptive. "As long as it doesn't deceive the reader," she says.

But Jack Corn does not approve of changing any photograph. "Before I came every picture went to the art department for routine retouching. No more," he says.[30]

Gary Settle of the Seattle Times tends to agree with Corn about changing photographic images. "It's a bad idea. We've got to be concerned about the credibility of photos." But Settle adds, "I can see it being useful and OK if used on the art and entertainment pages or photo illustrations. Definitely altering photos should be limited to those."[31]

Whether to remove clutter in a feature-section photo is not always a clear-cut answer.

"For sure not the news page," says Settle. "Feature, I'd have to look at. There's always been the airbrush to clean. It's a case by case decision."

"There were always airbrushes," says Rich Clarkson of the National Geographic. "It was purported to help reproduction but in fact often changed the photo. Most publications feel that's not acceptable. Very few any more do it. Everything done before can now be done with Scitex--just more easily and quickly."[32]

"If there's clutter and we decide to go with it, we will leave the photo intact," says Jackie Green of USA Today. "We do spotting and dodging and burning with Scitex."[33]

"Shoot it clean," advises The Register's Ron Mann on handling clutter. "If you can't be good at least be graphic. It becomes a composition problem. Don't manipulate the photo, manipulate your brain."[34]

Creating Photo Illustrations Electronically

There was some disagreement whether there is a distinction between altering documentary photos and altering feature section photo-illustrations.

"If it's clearly an illustration--I mean one where the result is immediately evident to the reader that this is an altered situation, I think it's OK," says Tom Hardin of the Louisville Courier-Journal and Times. "I don't think there are situations where we can alter a news photo."[35]

"You can combine (photos) into one and if the reader knows it's a piece of artwork--as long as the reader knows that," says Rich Clarkson.[36]

"I have strong objections to news photos but no problem if you're taking file photos and making a collage to illustrate a story," says USA Today's Larry Nylund.[37]

"Cut and paste? I have a real problem with that," says Ron Mann.[38]

There was disagreement on this point between two editors at the Chicago

Tribune. "I think its wrong to change the editorial content in news or feature photos," says photo director Jack Corn.[39] However, picture editor Bill Parker disagrees. "Illustrations play a trick, make a joke, do something grabbing and cute," says Parker. "This is eye-grabbing design. We're not saying this is the truth."[40]

The difference of opinion is in the actual execution of the photo-illustration. Some editors are comfortable with making illustrations using computers, while other editors want illustrations only from the photographer's camera and an unmanipulated, single sheet of film.

"We do illustrations in the studio," says The Register's Ron Mann.[41] the Tribune's Jack Corn agrees. "The photographer in a studio can do manipulation--he's a journalist," says Corn. "I don't want the production department to do it."[42] However, electronically-produced illustrations may affect photographers in a different way.

"The stronger potential is for making photographers lazy," says The Register's graphics editor Nanette Bisher. "We pride ourselves on doing complicated studio photos, like six exposures on one sheet of film." But she adds, "It (would be) easier with the computer to combine." Bisher could think of only one example where a food illustration was an electronic combination.[43] Ron Mann also does not approve of combination. "No," says Mann. "Only if someone were to tar and feather me. You read words, but you feel pictures. Do you notice that these issues come up with poor images--not with great photos?"[44]

Ethical Considerations of Digital Editing

Changing photographs digitally has caused ethical concerns.

"I think it's ethically, morally and journalistically horrible," says Jack Corn.[45]

"It's not the machine's fault," says Tom Hardin. "It gets back to editors and their ethics and their courage. I think changing a news event situation to where it's not what it is should be banned. I would hope that any news person would realize this. It's tantamount to changing quotes. We're not in the quote-changing business I hope."[46]

Everyone interviewed agreed it is unethical to alter news photos.

"It was a bad idea with scissors and it's a bad idea now," says Gary Settle. "To be able to do it neatly makes it a worse idea." He added, "There has always been color correction. These (computers) are the latest, fanciest generation of tools and they do it in the slickest way. You need ground rules."[47]

"The question is where enhancement ends and distortion begins," says Bill Parker. "The speed and ease and effectiveness bothers me."[48] Mary Jo Donahue recalls a Scitex demonstration at a conference that produced actress Joan Collins sitting on Reagan's shoulder.

"If they can do it so perfectly that the eye can't detect it--it's scary," she says.[49]

"Technology is not going to make ethical people do stupid things," says Nanette Bisher. "We don't allow pictures to be flopped--why would we alter images digitally?"[50]

"Ethics are a matter of people, not machines," says Ron Mann. "Those who have no public trust will do more of this. Those who have concern for public trust will work to keep that trust." But Mann is concerned.

"This involves the basic ethics of communication," says Mann. "We're

living in times when this industry can't afford another scandal. The problem is not in the items. The problem is with the excesses--changing reality."[51]

"The bottom line is we've always been able to use airbrush and scissors," says Rich Clarkson. "It's the degree of honesty. There's never been a clear-cut answer. The rules are not clear cut at all."[52]

Clarkson has experienced the dilemma of an organization criticized for changing a photograph electronically. The National Geographic magazine produced two covers in February and April 1982 that raised many eyebrows. In the February issue a pyramid was moved so it would fit into the vertical cover. In April two photos were spliced together so a Polish man's hat would show as completely as the editors desired. Clarkson was not involved in these decisions, but he defends these particular instances.

"It's exactly the same as if the photographer had moved the camera's position," he says referring to the pyramid that was originally photographed as a horizontal. "I have a hard time thinking that's a clear-cut issue. But people say 'My God you moved a pyramid!--Then you can move anything!' Also in that picture was a camel train. There's a suspicion that the photographer convinced them to move the camel train to that area. He also used a filter to change the sky. The scene you'd see if you were there is not the scene the photographer took. But it's a beautiful photo."[53]

"I'm never going to move a pyramid," says USA Today's Jackie Green. "I'd rather move the photographer. Obvious manipulation is acceptable--separate entities are combined to make a statement. But moving a pyramid is not the same thing."[54]

According to Clarkson, the Polish man on the April 1982 cover involved a series of frames. "The expression was best on one but the hat was cut off at

the top. In the very next frame was all of the hat. We used two frames that were shot split seconds apart. There again, ethically I'd have no problem with that--but some publications could start abusing."[55]

"There needs to be a widely shared consensus," says former NPPA president Gary Settle. But when asked if formal ethics codes should be adopted he hesitated. "Each publication needs to talk about how seriously it thinks the issues are," said Settle.[56]

The Chicago Tribune does have an ethics committee that has begun to formulate some policy concerning the use of Scitex. A preliminary proposal says the production department agrees to "follow the content of the copy exactly and reproduce the photo as closely as possible to the original except when the editorial department attaches a tissue overlay with special instructions on enhancement or change."[57]

Future Concerns of Electronic Editing

"Good sense will keep us out of trouble. Good sense keeps us out of court every day," says the Tribune's Bill Parker. But he is concerned about the legal ramifications of legal contracts and altering photographs. He has questions about the use of Scitex on freelance photographs, copyright laws, agency stock photos and model releases. He uses an example of a model who signs a release form. Five years later she appears via Scitex in a horse-racing photo. "What if because of her religious convictions that offends her?," he asks. "We're trying to grope very quickly. We've got to find the landmines," he says.[58]

While The Register's Nanette Bisher does not have specific ethical concerns about future uses of digital editing technologies, she has talked to

a magazine freelance photographer who feared losing future business. He was concerned publications could save money on portraiture--"add gray hair to a 10-year-old portrait. I don't think it will happen," she says.[59]

"It's too new and it's too expensive," says Jackie Green. "When the cost comes down, then there will be new fears. Now it's contained." However he points out the electronic still camera as a possible cause for concern. Electronic still cameras store images on silicon chips instead of easily examined film.

"The fear is going to come with electronic cameras. Now we have an acetate base--we have the original to judge from. When you put digital images into a modem it will cut down on safeguards. No one knows what the original looked like," he says.[60]

Ron Mann sees "no gloom, but we could see a polarization between journalists."[61]

Conclusions and Final Questions

Deadlines, problems with layouts, and the sheer ease with which photos can now be altered are strong pressures for making ethical mistakes with digital editing. While there have always been ways of manipulating B&W photographs with scissors, airbrushing and multiple prints, these manipulations have never been built into the production systems of newspapers. Before the advent of digital photo editing, a skilled printer had to make deliberate choices for manipulation and it took time. Now anyone in any department of a newspaper could decide on changes in photographic images by simply having access to the computer system.

The editors interviewed believe that ethical people won't manipulate

images. But former Chicago Sun-Times photographer Richard Derk asks a good question: "What about the editors who just don't consider visuals as potent as written words?" What about editors, most of them former writers, who do not value photography and can't recognize a visual ethical problem? This new technology could emphasize the tension between verbal and visual journalists.

But perhaps, more importantly, the future preponderance of digital photo editing could make readers cynical of photographic images--regardless of the publication. Individual publications might be trustworthy, but in the newspaper industry all documentary photography should be beyond reproach. While the editors interviewed seemed to agree that a news photograph should keep its "integrity," they disagree about how feature photo illustrations might be altered. Will readers be able to make distinctions between a newspaper's handling of feature photography and news photography as easily as some editors do? If not, newspapers may risk losing the public's trust in all photography.

1. Andy Grundberg, "Photography View," The New York Times, 14 March 1985.

2. Among the new electronic still cameras is the Sony Mavica. For popular use see Herbert Keppler, "What's Really Going On in Electronic Still Photography?" Modern Photography, February 1986, pp. 42-69.

3. Jackie Green, telephone interview, March 10, 1986.

4. Some other newspapers that have computer systems are the Washington Times and the Providence Journal and Newsday. According to Gary Settle, the Seattle Times is considering a computer system in the future. According to Quality Assurance Technical Manager Mike Feasey of the Los Angeles Times they are considering a computer system.

5. "Annual Report," Scitex Corporation Ltd., 1984, p. 7. The leading companies of Scitex, Hell Graphic Systems and Crossfield are reluctant to identify their customers.

6. Editor and Publisher Yearbook, 1986; The New York Times, 10 January 1986.

7. Fred Ritchin, "Photography's New Bag of Tricks," The New York Times Magazine, 4 November 1984, p. 43.

8. For example see Robert Holzer, "Computergraphics and Instant Imaging: A Winning Combination at Union Carbide," Industrial Photography, January 1986, pp. 26-27.

9. News Photographer, January 1986, p. 26.

10. Contents Page, Special Report: The Year in Pictures, Life, Winter 1976, pp. 2-3.

11. "Retouching Poses Ethical Questions," Folio: The Magazine for Magazine Management, March 1985, p. 19.

12. Stewart Brand, Kevin Kelly, Jay Kinney, "Digital Retouching: The End of Photography as Evidence of Anything," Whole Earth Review, July 1985, p. 43.

13. Ritchin, p. 49.

14. Nanette Bisher, telephone interview, 4 March 1986.

15. Jack Corn, interview at the Chicago Tribune building, 14 February 1986.

16. Ibid.

17. Bisher interview.

18. Green interview.

19. Ibid.

20. Larry Nylund, telephone interview, 2 March 1986.

21. Corn interview.

22. Ron Mann, telephone interview, 27 February 1986.

23. Nylund interview.

24. Green interview.

25. Corn interview.

26. Bill Parker, telephone interview, 27 February 1986.

27. Mary Jo Donahue, telephone interview, 4 March 1986.

28. Corn interview.

29. Donahue interview.

30. Corn interview.

31. Gary Settle, telephone interview, 7 March 1986.

32. Rich Clarkson, telephone interview, 28 February 1986.

33. Green interview.

34. Mann interview.

35. C. Thomas Hardin, telephone interview, 28 February 1986.

36. Clarkson interview.

37. Nylund interview.

38. Mann interview.

39. Corn interview.

40. Parker interview.

41. Mann interview.

42. Corn interview.

43. Bisher interview, electronic combination of a man dressed up as a bee and floating over honey.

44. Mann interview.

45. Corn interview.

46. Hardin interview.

47. Settle interview.

48. Parker interview.

49. Donahue interview.

50. Bisher interview.

51. Mann interview.

52. Clarkson interview.

53. Ibid.

54. Green interview.

55. Clarkson interview.

56. Settle interview.

57. Interoffice Memo to Jim Squires from Dick Leslie, no date, Chicago Tribune.

58. Parker interview.

59. Bisher interview.

60. Green interview.

61. Mann interview.